Technical Data for L-Series Liquid Flow Meters

0.5 CCM full scale through 10 LPM full scale

Standard specifications. Consult Alicat for available options.

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SENSOR PERFORMANCE	
Volumetric flow accuracy[1]	± 2% of full scale
Flow repeatability (2σ)[1]	± 0.2% of full scale
Pressure accuracy[1]	± 0.5% of full scale
Flow measurement range	2 – 100% of full scale
Operating pressure	100 PSIG
Temperature sensitivity	**Volumetric flow zero shift and span shift:** 0.02% of full scale per °C from 25°C
Temperature accuracy	± 0.75°C
Operating temperature range	−10 – 60°C
Totalizer volume uncertainty	± 0.1% of reading additional uncertainty
Sensor response time	< 1 ms
Typical indication response time	< 10 ms, flow rate dependent
Typical warm-up time	< 1 s

1 Stated accuracy is after tare under equilibrium conditions, includes repeatability and linearity.

MECHANICAL	
Wetted materials	**L:** 316L, 303, and FKM elastomers (EPDM, FFKM optional) **LS:** 316L, 303, and FFKM elastomers (EPDM optional)
Maximum pressure	Damage possible above 200 PSIG common mode pressure Damage possible above 75 PSI differential pressure
Ingress protection	IP40 (consult Alicat for weatherproofing options)
Mounting orientation sensitivity	None
Mounting holes	**0.5 – 1 CCM:** 2× 8-32 UNC threaded ↧ 0.175 " [4.45 mm] **2 – 500 CCM:** 2× 8-32 UNC threaded ↧ 0.325 " [8.23 mm] **1 – 2 LPM:** 2× 8-32 UNC threaded ↧ 0.350 " [8.89 mm] **5 – 10 LPM:** 4× 8-32 UNC threaded ↧ 0.375 " [9.53 mm]

POWER AND COMMUNICATIONS	
Digital output options[2]	RS-232 Serial and Modbus RTU (default), RS-485 Serial and Modbus RTU, Modbus TCP/IP, DeviceNet, EtherCAT, EtherNet/IP, PROFINET, PROFIBUS, IO-Link
Digital data update rate	40 Hz at 19200 baud
Analog output options[2,3]	4 – 20 mA, 0 – 5 Vdc, 1 – 5 Vdc, 0 – 10 Vdc
Analog data update rate[2]	1 kHz
Analog signal accuracy	±0.1% of full scale additional uncertainty
Interactive display	Simultaneously displays flow, temperature, and pressure
Display update rate	10 Hz
Electrical connection options	6-pin locking, 8-pin mini-DIN, 8-pin M12, 9-pin DB-9, 15-pin DB-15 (contact Alicat for custom pinouts)
Power requirements[2,3]	**0 – 5 Vdc output:** 9 – 28 Vdc, 40 mA **0 – 10 Vdc output:** 12 – 28 Vdc, 40 mA **4 – 20 mA output:** 12 – 28 Vdc, 80 mA

2 Analog outputs unavailable for MB-Series. See Portable Devices table for MB-Series specifications and options.

3 Consult the individual operating bulletins for specific industrial protocol power requirements and data transmission specifications.

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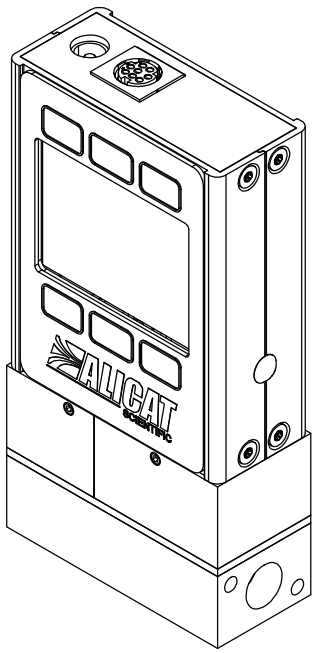
RANGE-SPECIFIC TECHNICAL DATA		
Full scale flow	**Pressure drop with water at full scale venting to atmosphere**	**Process connections[4]**
0.5 – 1 CCM	2.0 PSID	M5 female (10-32 compatible)[5]
2 – 500 CCM	2.0 PSID	⅛ " NPT female
1 LPM	4.0 PSID	⅛ " NPT female
2 LPM	4.0 PSID	¼ " NPT female
5 LPM	10.0 PSID	¼ " NPT female
10 LPM	20.0 PSID	¼ " NPT female

4 Consult Alicat for available process connection options, such as: Compression, face seal, push-to-connect, BSPP, SAE, or Swagelok®-compatible (including tube, VCO®, and VCR®).

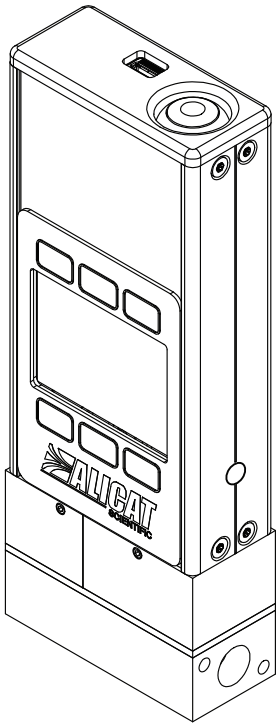
5 Shipped with Buna-N O-ring face seal to ⅛" female NPT fittings.

PORTABLE DEVICES (LB SERIES)	
Power requirements	5 Vdc, 1 A recommended via an outlet adapter to USB.
Battery life	**Monochrome screen:** 18 hours, user-configurable, contrast dependent **Color TFT screen:** 8 hours, user-configurable, contrast dependent 3.5-hour recharge time, with the supplied 2-A USB-A power supply and the device turned off
Electrical connection and communication	**Digital output:** Serial over Micro-USB Power over Micro-USB Type B Bluetooth® Low Energy (requires the Alicat Connect app and a compatible Android or iOS mobile device)
Charging temperature	0 – 45°C
Dimensions	Portable devices (LB Units) add 1.646 " [41.81 mm] to height, and 0.2 lb. [90.72 g] to weight.

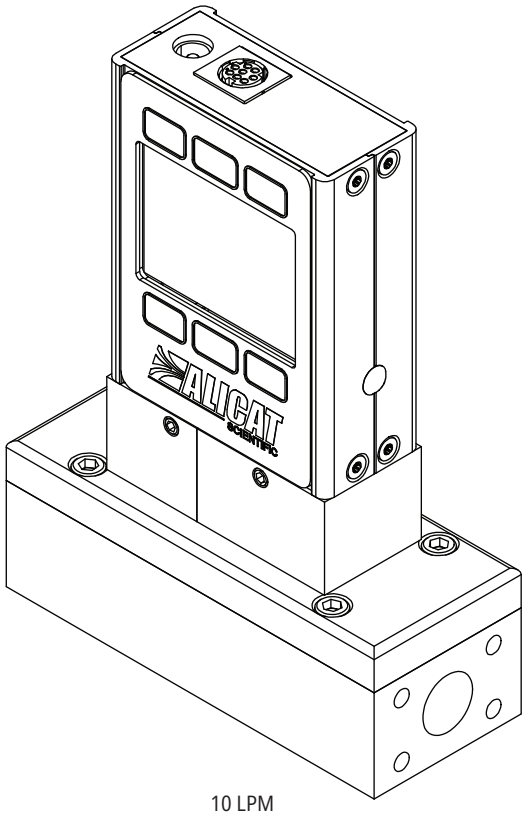
Representative Examples



1 LPM



LB
1 LPM



10 LPM

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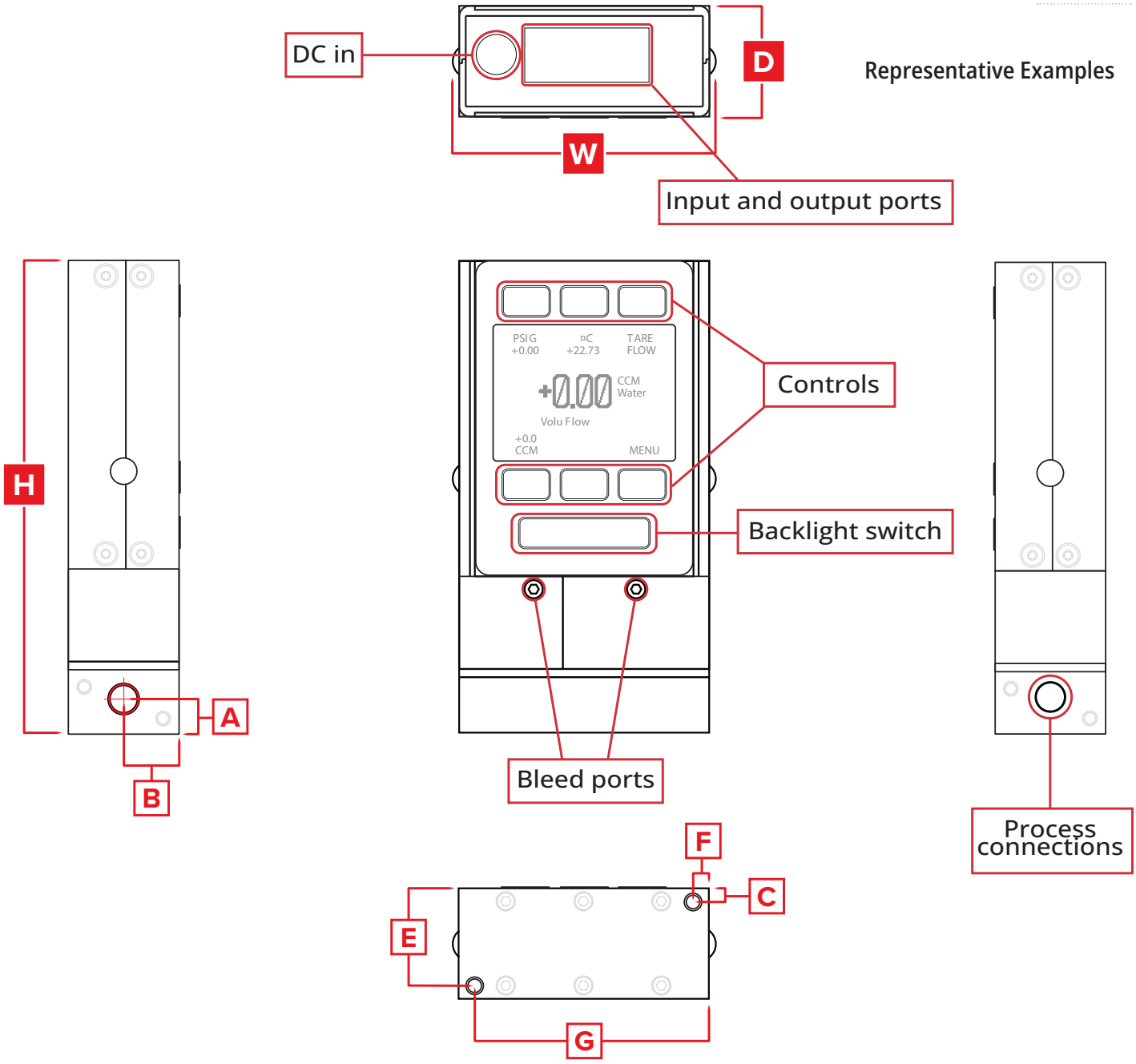

Representative Examples

DIMENSIONS										WEIGHT
Full scale flow	Height	Width	Depth	A	B	C	E	F	G	
0.5 – 1 CCM	4.488 in	2.375 in	1.050 in	0.336 in	0.525 in	0.125 in	0.925 in	0.150 in	2.225 in	≈ 0.8 lb
	114.00 mm	60.33 mm	26.67 mm	8.53 mm	13.34 mm	3.18 mm	23.50 mm	3.81 mm	56.52 mm	≈ 0.4 kg
2 CCM – 1 LPM	4.658 in	2.375 in	1.050 in	0.336 in	0.525 in	0.125 in	0.925 in	0.150 in	2.225 in	≈ 0.8 lb
	118.31 mm	60.33 mm	26.67 mm	8.53 mm	13.34 mm	3.18 mm	23.50 mm	3.81 mm	56.52 mm	≈ 0.4 kg
2 LPM	4.742 in	2.625 in	1.050 in	0.350 in	0.525 in	0.125 in	0.925 in	0.275 in	2.350 in	≈ 1.4 lb
	120.45 mm	66.68 mm	26.67 mm	8.89 mm	13.34 mm	3.18 mm	23.50 mm	6.99 mm	59.69 mm	≈ 0.6 kg
5 LPM – 10 LPM	5.192 in	4.000 in	1.600 in	0.500 in	0.800 in	0.175 in	1.425 in	0.750 in	3.250 in	≈ 2.4 lb
	131.88 mm	101.60 mm	40.64 mm	12.70 mm	20.32 mm	4.45 mm	36.20 mm	19.05 mm	82.55 mm	≈ 1.1 kg